

UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Adolf Feinauer et al.
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Examiner: Niki Marina Eloshway
Title: REFRIGERATOR HOUSING

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Commissioner for Patents
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APPEAL BRIEF

Pursuant to 37 CFR §41.37, Appellants hereby file an appeal brief in the above-identified application. The Appeal Brief fee, as set forth in 37 CFR §41.20(b)(2), was previously paid on September 24, 2010.

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(1) REAL PARTY IN INTEREST

The real party in interest is BSH Bosch und Siemens Hausgeräte GmbH.

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) STATUS OF CLAIMS

Claims 1-9 are cancelled. Claims 10-33 are pending in this application. Claims 30 and 32 are objected to as being dependent upon a rejected base claim. The final rejection of claims 10-29, 31 and 33 is being appealed. Claims 10, 19 and 27 are independent.

(4) STATUS OF AMENDMENTS

In response to the May 14, 2010, Final Office Action, Appellants filed a Notice of Appeal on July 27, 2010, along with a Pre-Appeal Brief Request for Review. The September 8, 2010, Decision from Pre-Appeal Brief Review indicated that the application remained under appeal. Appellants filed an Appeal Brief on September 24, 2010. The December 10, 2010, Office Action was issued in response to the September 24, 2010, Appeal Brief. Appellants filed a Notice of Appeal on March 2, 2011. No Amendments are outstanding.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

A first exemplary embodiment, as defined by, for example, independent claim 10, is directed to a housing for a refrigerator comprising a body (page 3, line 13; reference number 1, Fig. 1) and a door (page 3, line 14; reference number 2, Fig. 1) which is fixed to the body,

both of which define an inner chamber (page 3, line 23; reference number 8, Figs. 1, 2), wherein at least one evacuated insulation body (page 3, line 15; reference number 3-6, Fig. 1) is formed by the body and the door, wherein an inner wall (page 3, line 22; reference number 7, Figs. 1, 2) made of a plastic material is mounted in front of the insulation body towards the inner chamber (page 3, lines 22-23; Fig. 1).

A second exemplary embodiment, as defined by, for example, independent claim 19, is directed to a refrigerator comprising: a body (page 3, line 13; reference number 1, Fig. 1) and an inner chamber (page 3, line 23; reference number 8, Figs. 1, 2) disposed within the body; a vacuum insulation body forming at least a portion of the body and including an outer wall (page 3, line 16; Figs. 1, 2) and an intermediate wall (page 3, line 17; Figs. 1, 2) spaced apart from one another and forming a body space between the outer wall and intermediate wall, the body space being evacuated to at least partially provide a vacuum (page 3, line 19) having a pressure lower than atmospheric pressure within the vacuum insulation body and a supporting element (page 3, lines 18-20; Figs. 1, 2) being disposed within the body space; and an inner wall (page 3, line 22; reference number 7, Figs. 1, 2) mounted on the intermediate wall of the vacuum insulation body facing the inner chamber (page 3, lines 22-23; Fig. 1) and forming an intermediate space (page 4, lines 16-17; reference number 16, Fig. 1) between the inner wall and the vacuum insulation body and an insulating foam (page 4, lines 17-18; Figs. 1, 2) being disposed within the intermediate space.

A third exemplary embodiment, as defined by, for example, independent claim 27, is directed to a refrigerator comprising: a body (page 3, line 13; reference number 1, Fig. 1) including a top wall (page 3, line 12; reference number 3, Fig. 1), bottom wall (page 3, line 13; reference number 5, Fig. 1), two opposing side walls (page 3, line 13), and a rear wall (page 3, lines 12-13; reference number 4, Fig. 1), and an inner chamber (page 3, line 23; reference number 8, Figs. 1, 2) disposed within the body; a door (page 3, line 14; reference number 2, Fig. 1) coupled to the body; each of the walls of the body and the door comprising: a vacuum insulation body (page 3, line 15; reference number 3-6, Fig. 1) including an outer wall (page 3, line 16; Figs. 1, 2) and an intermediate wall (page 3, line 17; Figs. 1, 2) spaced

apart from one another and forming a body space between the outer wall and intermediate wall, the body space being evacuated to at least partially provide a vacuum (page 3, line 19) having a pressure lower than atmospheric pressure within the vacuum insulation body and a supporting element (page 3, lines 18-20; Figs. 1, 2) being disposed within the body space; and an inner wall (page 3, line 22; reference number 7, Figs. 1, 2) mounted on the intermediate wall of the vacuum insulation body facing the inner chamber (page 3, line 23; reference number 8, Figs. 1, 2) and forming an intermediate space (page 4, lines 16-17; reference number 16, Fig. 1) between the inner wall and the vacuum insulation body and an insulating foam (page 4, lines 17-18; Figs. 1, 2) being disposed within the intermediate space.

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- A) Whether claims 10-12, 17-25 and 27-29 are unpatentable under 35 U.S.C. §103(a) over EP 1 335 171 A1 (the Casoli reference) in view of EP 0 437 930 A1 (the Cur reference)
- B) Whether claims 13-16, 26, 31 and 33 are unpatentable under 35 U.S.C. §103(a) over EP 1 335 171 A1 (the Casoli reference) in view of EP 0 437 930 A1 (the Cur reference) and U.S. Patent No. 5,512,345 to Tsutsumi et al.

(7) ARGUMENT

- A) Claims 10-12, 17-25 and 27-29 are patentable under 35 U.S.C. §103(a) over EP 1 335 171 A1 (the Casoli reference) in view of EP 0 437 930 A1 (the Cur reference)

The Office Action rejects claims 10-12, 17-25 and 27-29 under 35 U.S.C. §103(a) over the Casoli reference in view of the Cur reference. Appellants respectfully traverse this rejection.

i) Claims 10 and 18

Claim 10 includes the feature of at least one evacuated insulation body being formed by the body and the door, wherein an inner wall made of a plastic material is mounted in front of the insulation body towards the inner chamber. Because the claimed inner wall is “mounted in front of” the insulation body, it cannot be one of the walls of the insulation body itself.

Initially, Applicants submit that it would not have been obvious to combine the multi compartment panel of Cur with the refrigerator of Casoli because to do so would be contrary to the teachings of Casoli. In paragraph 0004, Casoli states “An aim of the present invention is to provide a domestic refrigerator...that makes it possible to resolve the aforementioned problem in a simple and economic manner.” A main feature of Casoli appears to be the use of holes and/or channels to speed up the evacuation process. It is noted that the entire air space “K” of Casoli (which includes fabric or foam “R”) is one air space. A main feature of Cur is to provide separate vacuum compartments to increase the insulation qualities of the panel. If one was to insert the multi compartment panel of Cur into the refrigerator of Casoli, one would need to provide multiple completely separate evacuation systems in order to preserve the separate nature of the separate vacuum compartments. Providing such an elaborate structure of multiple separate evacuation systems would fly in the face of Casoli’s stated purpose of simplicity and economy.

Secondly, the Office Action states that the insulation body is formed by walls 30-32 of Cur and is inserted between inner and outer walls 14 and 16 of Casoli. Applicants submit that this would not have been obvious to do because it is unclear how the portion of the air space K of Casoli that is occupied by fabric or foam R would be evacuated. Or, in the alternative, if fabric or foam R is removed, how the multi compartment panel of Cur would conform to the shape of air space K without causing possible rupturing of the multi compartment panel of Cur (due to the sharp corners caused by channels C).

Further, as admitted by the Office Action, Casoli discloses just a single evacuation space. Combining Cur with Casoli would not result in the features of claim 10. The outer film walls 30, 32 of Cur are flexible. If one was to combine a multi compartment panel of Cur with the structure of Casoli, the result would be at most a multi compartment panel inserted into the insulation body of Casoli. Because outer shell 16 and inner shell 14 are parts of the insulation body, the claimed inner wall mounted in front of the insulation body would not exist. The combination of Casoli and Cur would not result in an inner wall that is separate from the insulation body.

Claim 18 depends from claim 10.

ii) Claims 11 and 12

Claim 11 includes the feature of the insulation body being separated from the inner chamber at least locally by an intermediate space. The Office Action asserts that it would have been obvious to provide the housing of Casoli with an intermediate space between the space K of Casoli and inner shell 14, “as taught by Cur”. Applicants respectfully submit that inserting the vacuum insulation panel 28 of Cur between the inner shell 14 and the outer shell 16 of Casoli would not result in an insulation body being separated from an inner chamber by an intermediate space because, as stated above, outer shell 16 and inner shell 14 are parts of the insulation body, so no intermediate space would exist between inner shell 14 and the inner chamber of the refrigerator.

Claim 12 depends from claim 11.

iii) Claim 17

Claim 17 includes the feature of the body being composed of a plurality of insulation bodies. In contrast the refrigerator of Casoli has at most one insulation body. This is evidenced by the purpose of Casoli, which is to create one vacuum chamber that can be quickly evacuated.

iv) Claims 19-25

Claim 19 includes the feature of a vacuum insulation body forming at least a portion of the body of the refrigerator and including an outer wall and an intermediate wall spaced apart from one another and forming a body space between the outer wall and intermediate wall; and an inner wall mounted on the intermediate wall of the vacuum insulation body facing the inner chamber. In contrast, Casoli has no intermediate wall. Also, Cur does not teach or suggest mounting an inner wall on an intermediate wall. Liner 20 of Cur is not mounted to the outer film wall of vacuum insulation panel 28. Further, it would not have been obvious to mount anything, much less the inner wall of a refrigerator, to the outer film walls 30, 32 of the vacuum insulation panel 28 of Cur. An important feature of Cur is that outer film walls 30, 32 are the outer barriers that maintain the vacuum inside vacuum insulation panel 28. It would not have been obvious to mount anything to these film walls because to do so would be to unnecessarily risk rupturing the film walls.

Claims 20-25 depend from claim 19.

v) Claims 27-29

Claim 27 includes the feature of a vacuum insulation body including an outer wall and an intermediate wall spaced apart from one another and forming a body space between the outer wall and intermediate wall; and an inner wall mounted on the intermediate wall of the vacuum insulation body facing the inner chamber. In contrast, Casoli has no intermediate wall. Also, Cur does not teach or suggest mounting an inner wall on an intermediate wall. Liner 20 of Cur is not mounted to the outer film wall of vacuum insulation panel 28. Further, it would not have been obvious to mount anything, much less the inner wall of a refrigerator, to the outer film walls 30, 32 of the vacuum insulation panel 28 of Cur. An important feature of Cur is that outer film walls 30, 32 are the outer barriers that maintain the vacuum inside vacuum insulation panel 28. It would not have been obvious to mount anything to these film walls because to do so would be to unnecessarily risk rupturing the film walls.

Claims 28 and 29 depend from claim 27.

Appellants respectfully request reversal of this rejection.

- B) Claims 13-16, 26, 31 and 33 are patentable under 35 U.S.C. §103(a) over EP 1 335 171 A1 (the Casoli reference) in view of EP 0 437 930 A1 (the Cur reference) and U.S. Patent No. 5,512,345 to Tsutsumi et al. (the Tsutsumi reference)

The Office Action rejects claims 13-16, 26, 31 and 33 under 35 U.S.C. §103(a) over the Casoli reference in view of the Cur reference and the Tsutsumi reference. Appellants respectfully traverse this rejection.

i) Claims 13-16

As explained above, the combination of Casoli and Cur does not teach or suggest the feature of an inner wall made of a plastic material that is mounted in front of the insulation body towards the inner chamber. Tsutsumi does not remedy the deficiencies of the combination of Casoli and Cur.

Indeed, the Examiner does not allege that Tsutsumi teaches or suggests the feature of an inner wall made of a plastic material that is mounted in front of the insulation body towards the inner chamber, as recited by claim 10, from which claims 13-16 depend.

ii) Claims 15 and 16

Claim 15 includes the feature of a holder for internal attachments being anchored to the aperture. Tsutsumi does not show any holder attached to any aperture.

Claim 16 depends from claim 15.

iii) Claims 26 and 31

As explained above, the combination of Casoli and Cur does not teach or suggest the feature of a vacuum insulation body forming at least a portion of the body of the refrigerator and including an outer wall and an intermediate wall spaced apart from one another and

forming a body space between the outer wall and intermediate wall; and an inner wall mounted on the intermediate wall of the vacuum insulation body facing the inner chamber. Tsutsumi does not remedy the deficiencies of the combination of Casoli and Cur.

Indeed, the Examiner does not allege that Tsutsumi teaches or suggests the feature of a vacuum insulation body forming at least a portion of the body of the refrigerator and including an outer wall and an intermediate wall spaced apart from one another and forming a body space between the outer wall and intermediate wall; and an inner wall mounted on the intermediate wall of the vacuum insulation body facing the inner chamber, as recited by claim 19, from which claims 26 and 31 depend.

iv) Claim 31

Claim 31 includes the feature of a first flange that is in the intermediate space adjacent to the intermediate wall. Tsutsumi does not show any intermediate space, especially no intermediate space as defined by claim 19.

v) Claim 33

As explained above, the combination of Casoli and Cur does not teach or suggest the feature of a vacuum insulation body including an outer wall and an intermediate wall spaced apart from one another and forming a body space between the outer wall and intermediate wall; and an inner wall mounted on the intermediate wall of the vacuum insulation body facing the inner chamber. Tsutsumi does not remedy the deficiencies of the combination of Casoli and Cur.

Indeed, the Examiner does not allege that Tsutsumi teaches or suggests the feature of a vacuum insulation body including an outer wall and an intermediate wall spaced apart from one another and forming a body space between the outer wall and intermediate wall; and an inner wall mounted on the intermediate wall of the vacuum insulation body facing the inner chamber, as recited by claim 27, from which claim 33 depends.

Further, claim 33 includes the feature of a first flange that is in the intermediate space adjacent to the intermediate wall. Tsutsumi does not show any intermediate space, especially no intermediate space as defined by claim 27.

Appellants respectfully request reversal of this rejection.

(8) CONCLUSION

In view of the foregoing discussion, Appellants respectfully request reversal of the Examiner's rejection.

Respectfully submitted,

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CLAIMS APPENDIX

1-9. (Canceled)

10. (Rejected) A housing for a refrigerator comprising a body and a door which is fixed to the body, both of which define an inner chamber, wherein at least one evacuated insulation body is formed by the body and the door, wherein an inner wall made of a plastic material is mounted in front of the insulation body towards the inner chamber.

11. (Rejected) The housing according to claim 10, wherein the insulation body is separated from the inner chamber at least locally by an intermediate space.

12. (Rejected) The housing according to claim 11, wherein the intermediate space is foam-filled.

13. (Rejected) The housing according to claim 10, wherein the inner wall has at least one aperture.

14. (Rejected) The housing according to claim 13, wherein a cable is guided through the aperture.

15. (Rejected) The housing according to claim 13, wherein a holder for internal attachments is anchored in the aperture.

16. (Rejected) The housing according to claim 15, wherein the holder for internal attachments of the refrigerator is formed in one piece on the inner wall.

17. (Rejected) The housing according to claim 10, wherein the body is composed of a plurality of insulation bodies and a one-piece inner wall common to the insulation bodies between which inner wall and the insulation bodies heat-insulating material is inserted for foaming.

18. (Rejected) The housing according to claim 10, wherein the insulation body is formed of an at least approximately non-diffusive inner cladding and an outer cladding associated vacuum-tightly thereto, which are arranged with respect to one another to form an evacuated body space which is filled with evacuable heat-insulating material.

19. (Rejected) A refrigerator comprising:
a body and an inner chamber disposed within the body;
a vacuum insulation body forming at least a portion of the body and including an outer wall and an intermediate wall spaced apart from one another and forming a body space between the outer wall and intermediate wall, the body space being evacuated to at least partially provide a vacuum having a pressure lower than atmospheric pressure within the vacuum insulation body and a supporting element being disposed within the body space; and
an inner wall mounted on the intermediate wall of the vacuum insulation body facing the inner chamber and forming an intermediate space between the inner wall and the vacuum insulation body and an insulating foam being disposed within the intermediate space.

20. (Rejected) The refrigerator according to claim 19, wherein the body includes a top wall, bottom wall, two opposing side walls, and a rear wall, each of these walls including:
a vacuum insulation body including an outer wall and an intermediate wall spaced apart from one another and forming a body space between the outer wall and intermediate wall, the body space being evacuated to at least partially provide a vacuum having a pressure lower than atmospheric pressure within the vacuum insulation body and a supporting element being disposed within the body space; and

an inner wall mounted on the intermediate wall of the vacuum insulation body facing the inner chamber and forming an intermediate space between the inner wall and the vacuum insulation body and an insulating foam being disposed within the intermediate space.

21. (Rejected) The refrigerator according to claim 20, further comprising a door coupled to the body, the door including:

a door vacuum insulation body including an outer wall and an intermediate wall spaced apart from one another and forming a body space between the outer wall and intermediate wall, the body space being evacuated to at least partially provide a vacuum having a pressure lower than atmospheric pressure within the door vacuum insulation body and a supporting element being disposed within the body space; and

a door inner wall mounted on the intermediate wall of the door vacuum insulation body facing the inner chamber and forming an intermediate space between the door inner wall and the door vacuum insulation body and an insulating foam being disposed within the intermediate space.

22. (Rejected) The refrigerator according to claim 19, wherein the outer wall and intermediate wall of the vacuum insulation body are formed from a metal material.

23. (Rejected) The refrigerator according to claim 19, wherein the inner wall is formed from a plastic material.

24. (Rejected) The refrigerator according to claim 19, wherein the supporting element includes an open-pored foam material.

25. (Rejected) The refrigerator according to claim 19, wherein the insulating foam includes a closed-pored foam material.

26. (Rejected) The refrigerator according to claim 19, further comprising an aperture formed in the inner wall and a cable running through the intermediate space and extending through the aperture.

27. (Rejected) A refrigerator comprising:
a body including a top wall, bottom wall, two opposing side walls, and a rear wall, and an inner chamber disposed within the body;
a door coupled to the body;
each of the walls of the body and the door comprising:
a vacuum insulation body including an outer wall and an intermediate wall spaced apart from one another and forming a body space between the outer wall and intermediate wall, the body space being evacuated to at least partially provide a vacuum having a pressure lower than atmospheric pressure within the vacuum insulation body and a supporting element being disposed within the body space; and
an inner wall mounted on the intermediate wall of the vacuum insulation body facing the inner chamber and forming an intermediate space between the inner wall and the vacuum insulation body and an insulating foam being disposed within the intermediate space.

28. (Rejected) The refrigerator according to claim 27, wherein the outer wall and intermediate wall of the vacuum insulation body are formed from a metal material, and the inner wall is formed from a plastic material.

29. (Rejected) The refrigerator according to claim 27, wherein the supporting element includes an open-pored foam material, and the insulating foam includes a closed-pored foam material.

30. (Objected to) The refrigerator according to claim 19, wherein the outer wall of the vacuum insulation body is an outside wall of the refrigerator.

31. (Rejected) The refrigerator according to claim 19, further comprising an attachment device for supporting a fixture on the inside of the refrigerator, the attachment device having

- a first flange that is in the intermediate space adjacent to the intermediate wall;
- a second flange that is adjacent to the inner wall;
- a spacer that separates the first flange and the second flange; and
- a holder portion attached to the spacer for supporting the fixture.

32. (Objected to) The refrigerator according to claim 27, wherein the outer wall of the vacuum insulation body is an outside wall of the refrigerator.

33. (Rejected) The refrigerator according to claim 27, further comprising an attachment device for supporting a fixture on the inside of the refrigerator, the attachment device having

- a first flange that is in the intermediate space adjacent to the intermediate wall;
- a second flange that is adjacent to the inner wall;
- a spacer that separates the first flange and the second flange; and
- a holder portion attached to the spacer for supporting the fixture.

EVIDENCE APPENDIX

None

RELATED APPEALS APPENDIX

None